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Final Technical Report

AFOSR Grant No. 87-0006

October 1, 1986 to September 30, 1988

**WORKSTATIONS FOR POST-PROCESSING DATA OF
UNSTEADY, COMPRESSIBLE, VISCOUS FLOWS**

Submitted to:

Air Force Office of Scientific Research

Submitted by:

K.-Y. Fung, Associate Professor
Department of Aerospace & Mechanical
Engineering

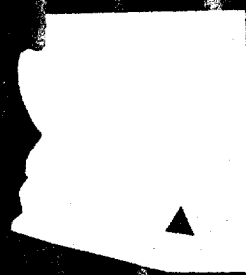
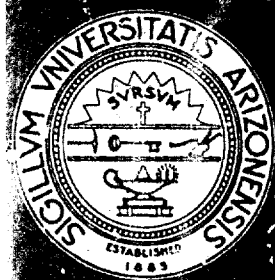
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<p>→ The report outlines the configuration and acquisition of a computer system based on the graphics workstation IRIS 3130 for use in the study and analysis of complex flow structures of unsteady, compressible & viscous flows. Keywords: Computer graphics, (AW) *</p>					
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FINAL REPORT
AFOSR Grant No. 87-0006

WORKSTATIONS FOR POST-PROCESSING DATA
OF
UNSTEADY, COMPRESSIBLE, VISCOUS FLOWS

Submitted to
Air Force Office of Scientific Research
Building 410
Bolling AFB, D. C. 20332-6448

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JANUARY 1989

WORKSTATIONS FOR POST-PROCESSING DATA OF UNSTEADY, COMPRESSIBLE, VISCOUS FLOW

I. SUMMARY

This final report summarizes all the acquisitions on the AFOSR Grant No. ~~83-0006~~ ⁸⁷⁻⁰⁰⁰⁶ and the matching funds provided by the University of Arizona. The span of the Grant is from October 1, 1986 to September 30, 1988.

The purpose of the grant is to equip and modernize the Computational Fluid Mechanics Laboratory of the Aerospace and Mechanical Engineering Department. We have acquired on the Grant and University matching funds two IRIS-3130 graphics workstations, three Macintosh-SE and one Macintosh-IIx personal computers, one MATRIX-6124 (formerly DUNN) camera and its accessories, one Apple-II-NTX Laser-writer, and hardware and software for the upgrade of an existing SUN-III/160 Microsystem.

The IRIS-3130, the backbone of our computer system, was the most advanced graphics workstation available at the time of purchase and was acquired at 50% discount of the list price due to the NSF Supercomputer Consortium Initiative. Hence, we were able to afford a dual-workstation system instead of the proposed single-workstation system. With an upgraded SUN-III/160 as a file server and a gateway to the campus-wide Ethernet, our system can now access all major supercomputing centers in this country.

To maximize the use of the workstations, a Macintosh-IIx and three Macintosh-SE personal computers were acquired and configured, with which as many as five users of the Laboratory can access the workstations at a given time. They also provide a means for off-site remote access to our system through the University's dial-in facility.

The MATRIX camera, the Apple laser printer and their accessories furnish various types of graphical outputs, from single frame hard copies to animate display of a sequence of color plots.

II. RESEARCH FACILITATED BY THE ACQUISITIONS

The principal investigator, Dr. Fung, is currently involved in research projects on dynamic stall phenomena. The workstation computer system enables him and his co-workers to study and analyze complex, time-evolving flow structures. His effort in this area is currently supported by the AFCSR on Grant 88-0163.

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